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NOTICE OF PROPOSED MODIFICATIONS TO

CALIFORNIA CODE OF REGULATIONS

Title 8: Division 1, Chapter 4, Subchapter 7, Article 20, Section 3563 and Article 25, Section 3651 of the General Industry Safety Orders.

Rollover Protective Structures for Ride-On Power Lawn Mowers.

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named standard in which modifications are being considered as a result of public comments and/or Board staff consideration.

On December 17, 2009, the Standards Board held a Public Hearing to consider revisions to Title 8, Sections 3563 and 3651, of the General Industry Safety Orders. The Standards Board received written and oral comments on the proposed revisions. The standards have been modified as a result of these comments and Board consideration.

A copy of the full text of the standard, with the modifications clearly indicated, is attached for your information. In addition, a summary of all written and oral comments regarding the original proposal and staff responses is included.

Pursuant to Government Code Section 11346.8(d), notice is also given of the opportunity to submit comments concerning the addition to the rulemaking file of the following document relied upon:

> Federal Register: December 1, 1998 (Volume 63, Number 230), Powered Industrial Truck Operator Training: Final Rule, Page 66259.

A copy of this document is available for review during normal business hours at the Standards Board Office located at the address listed below.

Any written comments on these modifications and document relied upon must be received by 5:00 p.m. on May 3, 2010, at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. The standards will be scheduled for adoption at a future business meeting of the Standards Board.

The Standards Board's rulemaking files on the proposed action are open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Standards Board's office.

Inquiries concerning the proposed changes may be directed to Marley Hart, Executive Officer at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Date: April 14, 2010

Marley Hart, Executive Officer

PROPOSED MODIFICATIONS
(Modifications are indicated in bold, underline for new language, and bold, strikeout for deleted language.)

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4

Amend Section 3563 to read:

§3563. Power Lawn Mowers.

(a) Scope. These regulations apply to power lawn mowers ~~of 20-brake horsepower or less~~ and cover walk-behind reel and rotary power lawn mowers, riding reel and rotary power lawn mowers, lawn riding tractors with mower attachments, and lawn and garden riding tractors~~, and related~~ with mower attachments. They are intended to provide safety requirements and to help ensure uniform operator environments. These regulations do not apply to sulky-type units, flail mowers, ~~or~~ sickle bar mowers, or tractors as defined in Article 25 of these Orders unless the tractor is designed primarily for mowing lawns and manufactured in conformance with the ANSI B71.1 or B71.4 national consensus standards for power lawn mowers. Requirements for tractors and attachments used in mowing operations that are manufactured in conformance with the ANSI B71.1 and B71.4 standards are provided in this Section.

~~NOTE: For tractors of more than 20-brake horsepower see Article 25.~~

(b) General.

(1) Power lawn mowers placed in service after March 29, 1975 through April 15, 1999, shall ~~be designed, constructed, tested and labeled to~~ meet the ~~provisions~~ requirements of ANSI B71.1-1972 and B71.la-1974 or ANSI B71.1-1980, Safety Specifications for Power Lawn Mowers, Lawn and Garden Tractors and Lawn Tractors~~.~~, or shall meet the requirements of the applicable ANSI B71.1 or B71.4 standard in effect at the time the mower was manufactured.

~~(2) Power mowers placed in service after April 15, 1999 shall be approved as defined in Section 3206 of the General Industry Safety Orders.~~

(2) Power lawn mowers manufactured after April 15, 1999, shall meet the requirements of one of the following ANSI B71.1 or B71.4 standards, as applicable, based on the mower design and date of manufacture. These ANSI standards are hereby incorporated by reference:

ANSI/OPEI B71.1-1998 standard for Consumer Turf Care Equipment-Walk-Behind Mowers and Ride-On Machines with Mowers-Safety Specifications,

ANSI B71.1-2003 standard for Consumer Turf Care Equipment-Walk-Behind Mowers and Ride-On Machines with Mowers-Safety Specifications,

ANSI/OPEI B71.4-1999 standard for Commercial Turf Care Equipment-Safety Specifications,

ANSI B71.4-2004 standard for Commercial Turf Care Equipment-Safety Specifications.

(3) Power lawn mowers manufactured after [*OAL to fill in the effective date of this regulation*] shall be affixed with a durable label stating that the power lawn mower is manufactured in accordance with the applicable ANSI B71.1 or B71.4 standard.

PROPOSED STATE STANDARD,
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(c) Roll-Over Protective Structures (ROPS) and Seat Belts. Effective [*OAL to fill in a date that is 180 calendar days after the effective date of this standard*], when visual inspection or technical information from the manufacturer indicates that a riding lawn mower is designed by the manufacturer to be equipped with ROPS, or to accept ROPS as an option, ROPS engineered and approved for the mower shall be provided and used. Approved seat belt assemblies shall be provided and used on all riding lawn mowers where ROPS are installed.
Exception: The use of ROPS and seat belts may be temporarily suspended only when operating in areas where the vertical clearance is insufficient to allow a ROPS equipped mower to operate.
NOTE: The requirements for ROPS on agricultural and industrial tractors are provided in Article 25 of the General Industry Safety Orders.
(d) Prohibited use of Ride-on, Sit-down Lawn Mowers.
(1) Ride-on, sit-down lawn mowers shall not be used on slopes that exceed the angle limitation **when** specified by the manufacturer.
(2) ~~**Ride-on, sit-down lawn mowers shall not be operated on slopes greater than 15 degrees w**~~ **W**hen the manufacturer's instructions are not obtainable or do not specify the angle limits for operating ~~**such**~~ **ride-on, sit-down lawn** mowers on sloped surfaces**, a qualified person shall evaluate the terrain and slope conditions to ensure the mower is operated in a safe manner**.
(3) Ride-on, sit-down lawn mowers shall not be operated **in areas where the traction drive wheels, as measured from the outside wheel edge, are** within 5 feet of ~~**the following areas or locations:**~~ **the unprotected edges of retaining walls, embankments, levees, ditches, culverts, excavations or similar locations that present an overturn hazard.**
~~**(A)**~~ **(4) When it is necessary to operate a ride-on, sit-down mower near** ~~**P**~~**p**onds, creeks, reservoirs, canals, sloughs, lakes, golf course water hazards and similar bodies of water**,** ~~**that present injurious or drowning hazards to the operators of ride-on, sit-down lawn mowers in the event of an upset, loss of traction/control or overturn of the mower.**~~
~~**(B) Retaining walls/embankments, and the unprotected edges of levees, ditches, culverts, excavations or similar locations that present an overturn hazard.**~~ **a qualified person shall evaluate the terrain and any slope conditions to ensure the mower is operated at safe speeds and at safe distances from such hazards.**
(e) Powered Lawn Mower Operator Training.
(1) Safe operation.
The employer shall ensure that each power lawn mower operator is competent to operate the mower safely, as demonstrated by the successful completion of the training and evaluation specified in this subsection. Prior to permitting an employee to operate a power lawn mower (except for training purposes), the employer shall ensure that each operator has successfully completed the training required by this subsection, except as permitted in subsection (e)(5).
(2) Training program implementation.
(A) All operator training and evaluation shall be conducted by qualified persons who have the knowledge, training and experience to train power lawn mower operators and evaluate their competence.

(B) Trainees may operate a power lawn mower only under the direct supervision of qualified persons provided that such operation does not endanger the trainee or other employees.

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(C) Training shall consist of a combination of formal instruction (e.g., lecture, discussion, written material, audio visual material) and also include demonstrations by the trainer and practical exercises performed by the trainee and evaluation of the operator's performance.
(3) Training program content. Operators shall receive initial training to ensure that each employee who operates a power lawn mower has been provided training in the hazards associated with the operation of mowers and other topics necessary for the safe operation of mowers. Training shall include at least the following:
(A) Review of the manufacturer's operator's manual including operating instructions, warnings and precautions for the types of power lawn mowers the operator will be authorized to operate.
(B) Review of the operator controls and instrumentation for safe operation of the equipment.
(C) Review all safety devices to ensure guards and shields are kept securely in place.
(D) The importance of surveying the terrain for hazards prior to mowing to identify obstacles in the mowing path, such as large rocks, tree stumps, soft or wet spots, and the prohibited use areas for ride-on, sit-down mowers provided in subsection (d) of this section.
(E) Speed control, steering and maneuvering the mower.
(F) Review of stability and rollover hazards associated with operating riding lawn mowers on surfaces, terrains or areas such as, but not limited to loading ramps, wet surfaces, slopes, and areas near drop offs, retaining walls/embankments, water or ponds, unprotected ditches, culverts, or excavations.
(G) The use **of** ROPS and seatbelts for riding mowers that are equipped with ROPS.
(4) Refresher training and evaluation. Refresher training, including an evaluation of the effectiveness of that training, shall be conducted as required by this subsection to ensure that the operator has the knowledge and skills needed to operate the power lawn mower safely. Refresher training in relevant topics shall be provided to the operator when:
(A) The operator has been observed to operate a mower in an unsafe manner;
(B) The operator has been involved in an accident or near-miss incident;
(C) The operator has received an evaluation that reveals that the operator is not operating a mower safely; or
(D) The operator receives a new job assignment that includes operating a mower or machinery that the operator is unfamiliar with or includes mowing lawns on terrain or surfaces that present hazards unfamiliar to the operator in their current or past work assignments.
(5) Avoidance of duplicative training. If an operator has previously received training in a topic specified in subsection (e)(3) of this section, and such training is appropriate for the type of power lawn mower authorized for use and the working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the mower safely.
(6) Recordkeeping. All safety instruction and training shall be documented in accordance with Section 3203 of the General Industry Safety Orders.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4

Amend Section 3651 to read:

§3651. Agricultural and Industrial Tractors.
(a) All agricultural and industrial tractors manufactured after October 25, 1976 (except industrial tow tractors), shall be equipped with rollover protective structures (ROPS) when operated by an employee.
EXCEPTIONS:
1. "Low profile" tractors while used in orchards, vineyards or hop yards or inside a farm building or greenhouse in which the vertical clearance is insufficient to allow a ROPS equipped tractor to operate, and while their use is incidental to the work performed therein.
2. Tractors while used with mounted equipment that is incompatible with ROPS (e.g. cornpickers, cotton strippers, vegetable pickers and fruit harvesters).
3. Tractors, when operated as stationary power and pumping units, and while their use is incidental to such stationary operations.
NOTE 1: The terms "incidental to the work" or "incidental to", used in the exceptions above, shall mean the necessary additional work required to perform or complete the intended work within the exempted work area (such as, fueling, repairing, maintenance, travel to and from the exempted work area, etc.).
NOTE 2: Requirements for ROPS on tractors that are designed and used for the purpose of mowing lawns and that are manufactured in conformance with the ANSI B71.1 and B71.4 power lawn mower national consensus standards are provided in Section 3563 “Power Lawn Mowers.”

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NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO ORAL AND WRITTEN COMMENTS

I. Written Comments

Mr. Bruce Wick, The California Professional Association of Specialty Contractors (CALPASC), by e-mail dated November 30, 2009.

Mr. Wick stated that CALPASC is a non-profit trade association of over 400 construction employers in California. CALPASC supports the proposed amendments to Sections 3653 and 3651. Mr. Wick pointed out an editorial correction for Section 3563(e)(3)(G) stating that the word "or" should be inserted between the words "use" and "ROPS". Board staff confirmed that Mr. Wick intended to recommend that the word "of" be inserted into the first sentence of this subsection and the proposal has been revised accordingly.

The Board thanks Mr. Wick for his support of the proposal, comments and participation in the Board's rulemaking process.

Mr. Bill Taylor, CSP, South Chapter President, Public Agency Safety Management Association (PASMA), by letter dated December 14, 2009.

Comment:

Mr. Taylor stated that PASMA members include municipal and county governmental agencies, water districts, and other special districts. He stated concerns with proposed Section 3563(d)(3)(A). This subsection in part states that ride-on, sit-down mowers shall not be operated within 5 feet of certain water hazards that present injuries or drowning hazards in the event of an upset or overturn situation.

Mr. Taylor stated that some PASMA members reported that they have approximately 8, 613 linear feet of lake edge. With the 5 foot restriction, this would require that an additional acre of turf to be mowed by hand each week. He noted that most agencies do not have the manpower to perform this additional work. Mr. Taylor expressed that there are other methods to mitigate the risk of turnovers than a complete prohibition of mowing within 5 feet of any body of water.

Response:

The Board believes that this comment has merit in that there are waterfront areas in parks, golf courses and similar facilities where the hazard of upset or overturn on a riding mower is unlikely. This would be in areas where, because of the relatively flat terrain and type of mower equipment used, waterfront areas can be mowed with very little, if any risk of upset or overturn. Board staff is proposing modifications that would remove the 5 foot restriction related to the operation of riding mowers near bodies of water. A new subsection (d)(4) would require that, when it is necessary to operate riding mowers near bodies of water, a qualified person evaluate the terrain and any slope conditions to ensure the mower is operated within safe distances and speeds from such hazards.

The Board thanks Mr. Taylor for his comments and participation in the Board's rulemaking process.

Mr. Jim Fear, Manager, The Toro Company, by e-mail dated December 15, 2009.

Comment No. 1:

Mr. Fear stated that Toro participated in the advisory committee meetings and is in general agreement with the proposed language and supportive of this rulemaking activity. However, some questions have come up, especially with regard to machines larger than zero-turn mowers.

Proposed subsection (c) provides that, if the manufacturer has made a ROPS available as an option, it shall be provided and used. This comment is in regard to old machines that may still be in service. In some cases, a ROPS may no longer be available, since tooling is sometimes scrapped if there has been no demand for a number of years. If there is a sudden call for ROPS for one of these old machines, it may not be feasible for the manufacturer to retool and manufacture a small number of ROPS. In some cases the mower manufacturer may have not provided ROPS, but referred the original purchaser directly to an outside ROPS supplier. In some cases a manufacturer may no longer be in business. The user would be faced with not being able to continue using this machine if a ROPS cannot be made available.

Would it be feasible to allow a timely variance to allow a user to continue to use an old machine, perhaps within restricted areas and with operator training for the life of the machine? Otherwise the user would be forced to retire this machine and replace it.

Response:

It is unknown exactly how many older mowers would fit the scenario of this comment, but it is anticipated that the owners of only a relatively small number of older mowers may be challenged to obtain ROPS promptly from the mower manufacturer. However, the proposal allows 180 days for compliance with the ROPS provisions, and it is likely that working with the manufacturer, ROPS could be provided by the manufacturer or outsourced to an aftermarket manufacturer when those ROPS are engineered and approved for the mower (see the meaning of "approved" in GISO Section 3206).

An owner/employer would not be prevented from submitting a permanent variance application where a thorough evaluation of the terrain and intended use of the mower would be evaluated. Consequently, the Board does not believe that modification to the proposal as a result of this comment is necessary.

Comment No. 2:

Proposed subsection (d)(1) provides that mowers shall be used on slopes that are within the manufacturer's recommendations, and in subsection (d)(2), if there is no manufacturer's recommendation, the slope shall be limited to 15 degrees.

This comment is in regard to machines which are not labeled with a maximum slope recommendation but due to width or design are stable on a slope greater than 15 degrees. Many operators' manuals advise the operator to consider various slope conditions, such as roughness of the terrain, wet grass, slow down in turns, add weights to offset grass bagger accessories, and so forth. It is not always practical to give a recommended angle without consideration of slope factors.

Mr. Fear suggested that a solution might be to insert language as follows:
(d)(1) "Ride-on, sit-down lawn mowers shall not be used on slopes that exceed the angle limitation *where* specified by the manufacturer." and delete subsection (d)(2).

Response:

The comment indicates that some mower manufacturers do not specify the maximum recommended angle for slope operations and that due to the width or design a mower can be stable on a slope greater than 15 degrees. It is not always practicable to give a recommended angle for operation without consideration of slope factors. Board staff concurs with the comment that subsection (d)(1) should be clarified and has proposed modifications similar to the commenter's wording to indicate that angle limits for sloped operation be followed "when" specified by the manufacturer. For reasons discussed above, modifications are proposed for subsection (d)(2) that delete the slope limit of 15 degrees when the manufacturer's angle limits are not specified and would require a qualified person to evaluate the terrain and slope conditions to ensure the mower is operated in a safe manner.

Comment No. 3:

Proposed subsection (d)(3) provides that mowers shall not be operated within 5 feet of certain hazards. It is not clear if this refers to the edge of the mowing deck, the drive wheels, or the operator. Some machines are made with very wide mower decks or offset mower decks so they can mow right up to a hazard while keeping the machine and the operator a safe distance away. Boom mowers are specifically designed to mow areas up to a hazard while keeping the machine on solid ground.

Mr. Fear offered that one solution might be to insert language as follows:
(d)(3) "Ride-on, sit -down lawn mowers shall not be operated with the traction drive wheels within 5 feet of the following areas or locations; ..."

Response:

Board staff concurs that revisions are necessary for subsection (d)(3). With respect to the operation of riding mowers near bodies of water see the proposed modifications outlined in the response to Mr. Taylor's written comment.

Accident histories confirm that the operation of riding mowers near the unprotected edges of retaining walls, embankments, levees, ditches, culverts, excavations or similar locations present an overturn hazard. Board staff concurs with a number of advisory committee members that the proposal should specify a clear operational distance from such hazards. Board staff agrees with

the comment that modifications are necessary to clarify how the limit of 5 feet from such hazards is measured. It should be noted that the 5 foot restriction was recommended by members at the subcommittee meeting with the rationale that this distance would provide a reasonable safe zone from rollover hazards and still permit a 48-inch deck or 21-inch deck walk behind mower to complete cutting near such hazards.

Therefore, a modification is proposed for subsection (d)(3) to state, "Ride-on, sit-down lawn mowers shall not be operated in areas where the traction drive wheels, as measured from the outside wheel edge, are within 5 feet of the unprotected edges of retaining walls, embankments, levees, ditches, culverts, excavations or similar locations that present an overturn hazard."

The Board thanks Mr. Fear and the Toro Company for their comments, support of the proposal and participation in the Board's rulemaking process.

Mr. Ken Nishiyama Atha, Regional Administator, Occupational Safety and Health Administration (Federal OSHA). by letter dated December 16, 2009.

Comment:

Federal OSHA outlined the various requirements and provisions included in this rulemaking. The comment states that federal OSHA has completed its review of the proposed standard and finds the standard is at least as effective as the federal standard for ROPS on riding lawn mowers.

Response:

The Board thanks Federal OSHA for their review of the proposal, comments and participation in the Board's rulemaking process.

II. Oral Comments

Oral Comments received at the Decebember 17, 2009 Public Meeting in Sacramento.

Mr. John Bobis, representing Aerojet Gen Corporation,

Mr. Bobis commended Board staff for the work performed on the proposed standard. He indicated he had just one comment in that subsection (c) seems confusing, stating that if the technical information from the manufacturer states that the lawn mower is capable of being equipped with ROPS, it should be done, and the ROPS should be engineered for that particular mower. He further stated that this regulation is written more for the manufacturer than the user, but a qualified, registered engineer should be able to install the ROPS rather than returning it to the manufacturer.

Response;

There are some riding lawn mower models where the manufacturer provides ROPS as an optional accessory for purchase and other riding mowers that come standard equipped with ROPS at the time of purchase. It was the consensus of the advisory committee that when the manufacturer and its

design and engineering team decided that ROPS were indicated for a particular mower that the proposal should require a ROPS system on that mower regardless of whether the ROPS were provided as standard or optional accessory equipment. Consequently, the proposal requires that when visual inspection or technical information from the manufacturer indicates that a riding lawn mower is designed by the manufacturer to be equipped with ROPS, or to accept ROPS as an option, ROPS engineered and approved for the mower shall be provided and used.

On some mower models, particularly certain zero turn mowers,[1] it is visually evident that the mower is equipped with ROPS but that they are in the folded down or disengaged position. On other mowers that are designed to accept a ROPS system, there can be a hold pattern or brackets for ROPS evident on visible inspection. If the owner is uncertain, the proposal allows 180 calendar days from the effective date for the owner to install a ROPS system when it is required. This is sufficient time for the owner to contact/call the manufacturer or distributer with the model and/or serial number to confirm if the mower is designed to accept a ROPS system and have it installed when necessary.

The proposal does not require that the mower be returned to the manufacturer for the installation of ROPS. The proposal requires that ROPS must be engineered and approved for the mower, and consequently, staff concurs with the comment that a qualified engineer can accommodate a mower with a ROPS system. For the reasons stated above, the Board believes that the proposal is sufficiently clear and does not require modification.

The Board thanks Mr. Bobis for his support of the proposal, comments, and participation in the Board's rulemaking process.

Mr. John Gehlhausen, Attorney, representing the Law Offices of John Gehlhausen, P.C.

Comment No. 1:

Mr. Gehlhausen stated that although the proposal is a good step, he is fearful that it is too easily avoided and may be counterproductive. He stated that for the last 20 years, he has been involved in rollover litigation, and in that time, he has moved from large tractors that lacked ROPS to riding mowers also lacking ROPS. Manufacturers began equipping more of their equipment with ROPS in approximately 1972, but they only put ROPS on some of their machines, not all of them. A few manufacturers do put them on all of their machines, but those manufacturers are the exception rather than the rule. Mr. Gehlhausen indicated that manufacturers do not equip their machines with ROPS because it puts them at a competitive disadvantage in the market.

Response:

The Board disagrees with the opinion that the proposal is too easily avoided and may be counterproductive. The proposal provides specific training requirements, prohibits use of riding mowers in certain hazardous situations known to cause serious and fatal accidents and where the

[1] A zero turn riding mower can be turned in a full circle in a stationary spot because of the design of the wheels and drive mechanism. It is the most popular and commonly used type of mower used by commercial landscape contractors.

manufacturer has designed a mower for a ROPS system, requires that ROPS be provided and used with seatbelts. Additionally, more manufacturers are equipping riding mowers with ROPS systems which would require they be used under the provisions of the proposal. No substantiation has been ascertained for the comment that manufacturers do not equip their machines with ROPS because it puts them at a competitive disadvantage in the market.

Comment No. 2:

Mr. Gehlhausen stated that rollover of these machines, according the Consumer Product Safety Commission (CPSC), is the leading killer of people using ride-on power lawn mowers. People are not only killed but also injured. The CPSC statistics for 1980 through 2008 indicate that some 58,000 people have been taken to emergency rooms for treatment because of rollovers. If the ROPS, which consist of a roll bar and a seatbelt, are properly used, they have been proven 99% effective on every type of tractor on which they have been used, including riding mowers.

Response:

The Board thanks Mr. Gehlhausen for providing accident data that includes data relating to accidents to homeowners and concurs that the use of riding mowers equipped with ROPS and seatbelts can be very effective in mitigating serious accidents and fatalities.

Comment No. 3:

Mr. Gehlhausen stated that all it takes for a manufacturer to sidestep the proposed regulation is to put a different model number on a similar machine, and there is a significant price difference between the model with the ROPS and the model without.

Response:

Board staff is unable to substantiate whether this type of practice is or would be undertaken by manufacturers. Some manufacturers offer ROPS as an accessory option for the same model machine. However, proposed Section 3563(c) would eliminate the concept of an "option" to purchase ROPS because a ROPS system is required to be provided and used if the machine is designed to accept a ROPS system.

Comment No. 4:

Further comment indicates that the CPSC has studied slope rollovers as far back as the 1980s, and they occur on any angle a machine can mow, including slopes under 15 degrees. Thus, the provision requiring operators to avoid slopes of 15 degrees or more is ineffective. The cause of a rollover is rarely because of the slope alone, however; there is usually a loss of traction due to wet conditions or loose grass that contributes to the rollover.

Response:

See the response to Mr. Fear's written comment No. 2. Board staff concurs that reference to operating mowers on slopes with a specified slope angle limit is not always practicable without evaluation of the slope and its conditions. Modifications are proposed for Section 3563(d)(2) that would eliminate reference to 15 degree slopes.

Comment No. 5:

Mr. Gehlhausen stated that the provision [proposed Section 3563(d)(3)(B)] requiring operators to remain at least five feet away from a drop-off should be modified to equal the distance of the drop-off due to shear lines. For example, the operator should stay ten feet away from a ten-foot drop-off.

Response:

The accident histories do not reflect trends where injuries were caused by drop-offs or embankments collapsing. Staff would be concerned that any employer would operate riding mowers near drop-offs, excavations or embankments with shear lines that have the potential for collapse or that should require shoring. The employer is obligated already to identify and address such unique hazards under the general provisions of General Industry Safety Orders, Section 3203, Injury and Illness Prevention Program. The recommended concept could be problematic; as the distance of the drop-off becomes lesser, it would be unsafe to operate riding mowers; for example, within 2 feet of an unprotected edge that is 2 feet below. Rationale for the 5 foot restriction from certain hazards is discussed in the response to Mr. Fear's written comment No. 2.

Modifications are proposed to Section 3563(d) that sufficiently addresses the operation of mowers near hazardous areas. The Board does not believe further modification of the proposal is necessary as a result of this comment.

Comment No. 6:

Mr. Gehlhausen stated that this proposal is designed to prevent injuries. It is a good step in the right direction, but the most effective approach with the least cost effect would be to require ROPS on all ride-on power mowers.

Response:

The comment that installing ROPS on all ride-on power mowers (from a future date forward) would have the least cost and be the most effective approach is subjective, and staff is unable to accurately estimate this in a cost benefit analysis. There certainly would be costs to manufacturers that would need to change the engineering and production means and methods in some product lines, and these changes would be passed on to consumers. There would also need to be a workable possible trigger weight established with consensus for this requirement that would not be contrary to good engineering practices for the size, design and stability of numerous mower models. The national consensus standard committees for lawn mowers have not yet resolved this issue although it is under review. The training requirements and restricted use provisions of the proposal are necessary regardless of the design of the mower.

In reviewing accident histories, it is evident that a significant number of accidents would be eliminated by the combination of the proposals training requirements, restricted use provisions, and the use of ROPS and seatbelts as provided in the proposal.

The subject of requiring a ROPS system from a future date forward on all riding lawn mowers was discussed at length during the advisory committee process and in evaluation of the proposal subsequent to the advisory committee meeting. Walker Manufacturing Company stated that the majority of its mowers have the mowing deck out in front of the operator's seat (front deck mower) and the operator's seat positioned in the middle of the mower low to the ground, and the overall design provides a low center of gravity for added stability. That is not to say a rollover could never occur; however, the possibility is decreased substantially by the design. Their mowers have been meeting the current ANSI power mower consensus standard stability tests consistently. Their position is that mandatory ROPS for their typical mowers would reduce the stability of the mower and increase the likelihood of upsets and rollovers.

Other stakeholder input included the concern that mandating ROPS for all machines can have a negative effect on the machine, particularly as the machine gets smaller. The ROPS system can raise the center of gravity and lowers the tip angle that would create a rollover situation, which stakeholders believe is a situation to be avoided with or without a ROPS system, since ROPS are not a panacea for eliminating all hazards. Other statements include that it is contrary to good engineering practices to mandate ROPS for a machine that is not designed in size, frame structure or stability for such a system.

The concept of providing ROPS for all riding mowers is a relevant issue for manufacturers. At the advisory committee meeting, Mr. Gehlhausen provided examples of certain zero turn mower models where ROPS are offered at weights below the trigger level for stability testing in the current ANSI B71 standards. However, Board staff believes that it is premature for this proposal to include a trigger weight that would mandate ROPS for all riding mowers that may be arbitrary and/or inconsistent with manufacturer's engineering designs and national consensus standards, especially in light of the hundreds of riding lawn mower models with different designs, machine weights, unique operational controls and intended uses. This issue is under evaluation by the ANSI B71.1 and B71.4 committees and may warrant future consideration should this issue be addressed in future editions of the national consensus standards for power lawn mowers.

Therefore, the Board does not believe modification to the proposal is necessary as a result of this comment.

<u>Mr. Bill Taylor, CSP, South Chapter President, representing PASMA</u>

Mr. Taylor read into the record a comment from a PASMA member, included in his written comment letter. Regarding the proposed prohibition of using riding mowers within 5 feet of bodies of water, Mr. Taylor further stated that if it is a narrow mower, the prohibition makes sense, but if it is a gang mower where the mowing arm is to the side of the operator, it does not.

Response:

See the response to Mr. Taylor's written comment. The Board thanks Mr. Taylor for his comments and participation in the Board's rulemaking process.

Dialogue between Board members, Staff and the Public

Comment No. 1:

Board member William Jackson suggested that staff address where the five-foot margin begins, whether it is supposed to be five feet from the operator, the edge of the tractor, or the mowing apparatus.

Response:

See the response to Mr. Fear's written comment No. 3.

Comment No. 2:

Board member Dr. Jonathan Frisch stated that this petition had been an item of particular interest to him, and he expressed his appreciation to the Petrini family (the original Petitioners), for their participation in this process. He echoed Mr. Gehlhausen's concern regarding the requirement that only ROPS-equipped mowers be purchased after a particular date. He stated that there may have been a reason that this type of provision is not feasible, but he did not understand what that reason was, and he would like that addressed in the final statement of reasons.

Response:

See the responses to Mr. Gehlhausen's comment No. 6.

Comment No. 3:

Dr. Frisch expressed concerns about the 5 foot restriction (for operating riding mowers) in Section 3563(d)(3) and the rationale for it.

Response:

A review of accident histories and recommendations in mower owner manuals indicates that operation of riding lawn mowers in certain hazardous areas increases the likelihood of serious accidents and operator fatalities. Those areas include operation near bodies of water where an upset or overturned mower could result in a drowning or crushing injury and certain terrains that present overturn hazards such as the unprotected edges of retaining walls, embankments, levees, ditches, and similar locations. The 5 foot restriction was recommended by members at the subcommittee meeting, the rationale being that this distance would provide a reasonable safe zone from rollover hazards and still permit a 48-inch deck or 21-inch deck walk behind mower to complete cutting near such hazards. Also, see the responses to Mr. Taylor's written comment and Mr.

Fear's comments No. 2 & 3 which includes rationale for modifications proposed for Section 3563(d)(2), (d)(3) and additional subsection (d)(4).

Comment No. 4:

Dr. Frisch stated that he did not understand the difference between subsection (e)(4)(A) and subsection (e)(4)(C). Subsection (e)(4)(A) states that refresher training is required when an employee has been observed to operate a mower in an unsafe manner, and subsection (e)(4)(C) requires it when the operator has received an evaluation that reveals that the operator is not operating a mower safely. He further questioned what an employer is supposed to do with a third-party report of an operator having been observed to operate a mower in an unsafe manner; he asked whether that third-party report would be included with an evaluation, or would it automatically trigger the refresher training requirement on its own.

He closed by commending the staff and the advisory committee participants for their work on the proposal.

Response:

The provisions in proposed Section 3563(e)(4)(A) and (e)(4)(C) are verbatim of refresher training provisions in the federal standard 29 CFR 1910.178(l)(4)(ii)(A) & (C) and in Title 8, GISO Section 3668(d)(1)(A) & (C) that are related to forklift operator training. The training requirements for the operators of riding lawn mowers are modeled in large part consistent with similar provisions for forklift operation. The federal register dated December 1, 1998 related to the federal standard, 29 CFR 1910.178(l)(4)(ii)(A) & (C) explains that an instance of an unsafe operation, or an accident, or a near-miss incident, triggers the refresher training and that such refresher training is also needed if an evaluation reveals that an operator is not operating the industrial truck safely. Thus, either being observed operating the mower in an unsafe manner [Section 3563(e)(4)(A)] or; receiving a negative work performance evaluation relating to mower safety would trigger refresher training [Section 3563(e)(4)(C)].

In the event that an unsafe act was observed by a third party (a person other than the operator's employer) and assuming that information is provided to the employer, that information would need to be substantiated by the employer. If the employer verified the observation of an unsafe act as accurate, refresher training would be triggered under the provisions of Section 3563(e)(4)(A). The same forklift training provisions in Section 3668(d)(1)(A) & (C) have not resulted in clarity or enforcement issues for the Division.

The Board does not believe further modification to the proposal is necessary as a result of this comment.

Comment No. 5:

Board member John Kastorff stated that he endorsed Dr. Frisch's comments, specifically concerning a mandatory ROPS requirement and a better definition of the five-foot rule is necessary.

Response:

See the responses to Mr. Gehlhausen's comment No. 6. With respect to the operation of riding mowers within 5 feet of hazardous areas see the response to Board Member Dr. Frisch's comment No. 3.

Comment No. 6:

Bill Cameron, Manager for Standards and Compliance, representing mower manufacturer, John Deere Company, stated that ROPS are not appropriate for all machines, which was discussed in the advisory committee. He stated that the inclusion of the ANSI standards for manufacturers is very good. He is a member of the ANSI committees that review accidents and develop safety standards. It is an ongoing process, and the very ANSI regulations referenced in the proposal are currently in the revision process. New versions can be expected within the next one to two years.

Board member Willie Washington asked Mr. Cameron whether ROPS would be available both to agencies and employers that are subject to the proposed regulation and to individuals for home use, who are not. Mr. Cameron responded that within the John Deere Company, there is no such thing as optional ROPS. If the company determines, through a hazard analysis and a number of different tests, that ROPS are necessary for a particular machine, it will be on that machine for all models.

Response:

In addition to Mr. Cameron's response, it should be noted that nearly all manufacturers have certain mower models that are equipped with ROPS which are available to employers or homeowners. However, ROPS are more frequently equipped on mowers designed for commercial use.

Comment No. 7:

Mr. Kastorff asked whether John Deere manufactures a riding mower without ROPS. Mr. Cameron responded affirmatively, stating that many of the very small riding lawn mowers do not have ROPS, but generally they are very light weight and in most cases, John Deere advocates that it is far better for the operator to jump off if there is a rollover. A ROPS structure, almost invariably, will raise the center of gravity of any machine, which then makes it more likely to roll over on a given slope. That is just one of the considerations that need to be evaluated in determining whether a ROPS is necessary. He stated that there are downsides to ROPS that may, in fact, make a rollover more likely to occur.

Response:

The Board thanks Mr. Cameron for his response to Board member comments. Also see the responses to Mr. Gehlhausen's comment No. 6.

Comment No. 8:

Dr. Frisch asked about the impact of requiring that employers buy a ROPS-equipped device; he asked whether that requirement would cut out a large percentage of the available equipment in an employer's purchasing decision. He also asked in what case a ROPS would not be necessary. Mr. Cameron responded that there might be specific instances, such as an application-specific machine that does not have a ROPS, in which an employer would be prohibited from purchasing a machine. There will be special instances where a machine does not have a ROPS, but it fills a specific need.

Response:

The Board thanks Mr. Cameron for his response to Board member comments.

Comment No. 9:

Dr. Frisch asked how Board staff should approach the issue of shear lines and how close an operator can get to a body of water. He stated that it appears that there are certain circumstances where the edge of the device could be closer than five feet without posing a risk to the operator. Mr. Cameron responded that some mowers may have an extension off to the side where it would be safe to have the extension close to a body of water. In regard to the shear line argument, he stated that in his experience, he has never seen a bank collapse.

Response:

See the responses to Mr. Taylor and Mr. Fear's written comments. With respect to the operation of riding mowers near shear lines, see the response to Mr. Gehlhausen's comment No. 5.
Also see proposed modifications for Section 3563(d).

Madeline Petrini (Petitioner)

Ms. Petrini thanked the Board and staff for their efforts in developing the proposed standard.

Response:

The Board thanks the Petrini family for their comments and participation in the Board's rulemaking process.

Mr. John Gehlhausen, Attorney, representing the Law Offices of John Gehlhausen, P.C.

Comment No. 7:

Mr. Gehlhausen returned to the podium and stated that manufacturers tend not to put ROPS on lightweight mowers, but if the mower is on a slope with a 200-lb. operator, it is much more apt to tip and roll over on the operator, even if it is lightweight. He stated that whether the ROPS raises the center of gravity or not, as stated by Mr. Cameron, it provides protection for the operator. Most

of these machines do not roll over because of the center of gravity, but rather because an embankment collapses or because of slippage on slopes.

Response:

Machine rollovers, loss of control and upsets should be avoided, with or without ROPS, especially when operating riding lawn mowers on slopes and wet surfaces in the vicinity of water hazards where drowning hazards exist. ROPS are not always scalable for downsizing in relation to the smaller size mower and its frame structure and they must be substantial enough in size and strength to protect all body parts. The inclusion of ROPS inevitably raises the center of gravity and affects the stability of certain mower models. Accident histories reflect that slippage on slopes is a more frequent cause of accidents than embankment collapses. Staff is unable to substantiate the frequency of machine upsets caused by center of gravity concerns as this typically is not verified in accident investigations but is a major design and safety concern for mower manufacturers. Also see the responses to Mr. Gehlhausen's comment No. 6. The Board does not believe further modification to the proposal is necessary as a result of this comment.

The Board thanks Mr. Gehlhausen for his general support of the proposal, comments and participation in the Board's rulemaking process.